

# 4/A  
10-24-2  
Patent  
Robertson  
14691-7007



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

**Robert Bartola et al.**

**Serial No.: 09/847,746**

**Filed: May 1, 2001**

**For: INTEGRATED COOLING OF A  
PRINTED CIRCUIT BOARD STRUCTURE**

) Group Art Unit: 2835

) Examiner: Datskovsky, Michael V.

RECEIVED  
OCT 23 2002  
TECHNOLOGY CENTER 2800

### AMENDMENT AND RESPONSE TO OFFICE ACTION

Commissioner for Patents and Trademarks  
Washington, D.C. 20231

Sir:

In response to the Office Action mailed July 25, 2002, kindly amend the application as follows:

#### In the Claims:

Please cancel claims 1-11 without prejudice to pursue in a continuation application, and please amend claim 12 as follows:

*Sub C1*

12. (Amended) An assembly comprising:  
a heat-generating device attached to a printed circuit board (PCB), and  
a thermal management system, the thermal management system comprising a heat sink having an interior lumen, and a coolant circulation channel at least partially formed in a layer of the PCB, the coolant circulation channel being in fluid communication with the heat sink lumen.